

MPM 1D Opener

i) $2^3 \times 2^4$ ii) $\frac{3^6}{3^3}$ iii) $\frac{x^2 y^4}{x^3 y^2}$

iv) $(x^3 y)^2$ v) $(x^2 y)^3$ vi) $\frac{x^4 y^3}{x^2 y^2}$

vii) $(x^2)^{-3}$ viii) $(x^3 y)^{-2}$

$3.00 \times 10^4 \times 9 \times 10^{-6}$
 27×10^{-2}
 2.7×10^{-1}

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$2^3 \times 2^4$ $\frac{3^6}{3^3} =$

$\frac{2^{3+4}}{2^3} = 2^7$

$\frac{x^2 y^4}{x^3 y^2} = \frac{x^{2-3} y^{4-2}}{1} = \frac{y^2}{x}$

$(x^3 y)^2 = x^6 y^2$

$(x^2 y)^3 = x^6 y^3$

$\frac{x^4 y^3}{x^2 y^2} = x^{4-2} y^{3-2} = x^2 y$

$(x^2)^{-3} = x^{-6} = \frac{1}{x^6}$

$(x^3 y)^{-2} = x^{-6} y^{-2} = \frac{1}{x^6 y^2}$

$3.00 \times 10^4 \times 9 \times 10^{-6}$
 27×10^{-2}
 2.7×10^{-1}

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4.1 Polynomials p. 254-259

$3s + 6$

-This algebraic expression has
2 terms

i) $3s$ — variable
coefficient

ii) 6 constant
represents the change or rate

$p = 3k + 4$
price distance in kms

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Rules

Like Terms - have the same variable and exponents

e.g. $8s$ and $3s$
 $2s^2$ and $4s^2$

Different Terms

have different variables and/or
exponents and cannot be combined

e.g. $3s$ and $4n$ b/c diff variables
 $3s$ and $3s^2$ b/c diff exponents

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Algebraic expressions are also called
Polynomials

Polynomials → terms are being added
or subtracted (combined)

Monomial 1 term $3x^4$
 Binomial 2 terms $3x^4 + 2x$
 Trinomial 3 terms $2x^2 - 6x + 4$

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Addition & Subtraction ⇒

Like
Terms

Addition

i) $(4s + 6) + (3s + 8)$
 $4s + 6 + 3s + 8$
 $7s + 14$

All the rules
of rationals
apply

. integers
. fractions

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$$\text{ii) } (3s^2 + 2s + 4) + (2s^2 + s + 2)$$

$$\underline{3s^2 + 2s + 4} + \underline{2s^2 + s + 2}$$

$$5s^2 + 3s + 6$$

highest
variable

first

-Constant last

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$$(3r^2 + 2s + 5) - (2r^2 + 3s + 2)$$

$$\underline{3r^2 + 2s + 5} - \underline{2r^2 - 3s - 2}$$

$$r^2 - s + 3$$

$$\text{ii) } (3n^4 + 2r - 6) - (2n^4 + 3r - 8)$$

$$\underline{3n^4 + 2r - 6} - \underline{2n^4 - 3r + 8}$$

$$n^4 - r + 2$$

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$$\left(\frac{3}{4}a - \frac{1}{2}b\right) + \left(\frac{2}{5}a - \frac{1}{4}b\right)$$

$$\frac{3}{4}a - \frac{1}{2}b + \frac{2}{5}a - \frac{1}{4}b$$

$$\frac{3}{4}a + \frac{2}{5}a - \frac{1}{2}b - \frac{1}{4}b$$

$$\frac{15}{20}a + \frac{8}{20}a - \frac{2}{4}b - \frac{1}{4}b$$

$$\frac{23}{20}a - \frac{3}{4}b$$

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P. 257 & 258 text

q 1 a) b) c) 2 a) b) c) 4 g - 1 c 5 a - i

6 a - f 10, 12

7 3 11

Subtraction

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